

"NO STEP" Shield Prevents Overheating

LEMME GUESS,
BENT RADIATOR
FINS ARE THE
CULPRIT.

YEAH, THIS IS
WHAT WE GET FOR
NOT USING OUR "NO
STEP" SHIELD DURING
ENGINE WORK!

Dear Half-Mast,

Soldiers are stepping on the radiator fins in their HMMWVs and bending them. I think they should put "NO STEP" signs on HMMWVs, like those found on helicopters. How about you?

SSG N.O.

Dear Sergeant N.O.,

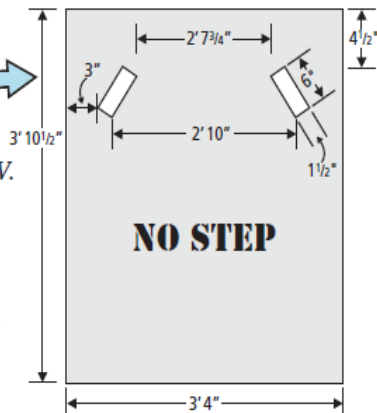
"NO STEP" signs are a great idea! That's because the fins on your HMMWV's radiator and oil cooler protect your HMMWV's engine and transmission from overheating.

Without protection, the fins can bend during PMCS and repair work. And when enough of the fins are bent, the reduced air flow through the radiator and cooler leads to engine and transmission overheating.

So another good idea is to make a fin shield to keep the fins on your HMMWV's radiator straight!

Making the Fin Shield

Fabricate a fin shield by cutting $\frac{3}{4}$ -in plywood using these approximate dimensions:



Adjust the dimensions to fit your HMMWV.

Then, round off the edges and paint the board to prevent splinters. And be sure to stencil **NO STEP** on the board.

You'll also see this info on Page D-52 of TM 9-2320-280-20-3 and Page D-26 of TM 9-2320-387-24-2.

Using the Fin Shield

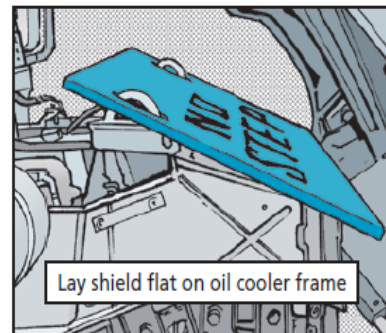
Once you've made a fin shield, you can use it right away. Just remove both plate covers and seals from the airlift buckets, and slip it over the two lifting rings. Then lay it flat on the oil cooler frame. The rings prevent the shield from sliding onto the raised hood.

Don't run the engine with the shield in place! It'll block air flow and lead to engine overheating—the very thing your shield is designed to help prevent!

After using your fin shield, replace the eye-hook seals. And even though the board should protect the fins against bending, check for bent fins anyway. Then use the fin-straightening tool, NSN 5120-00-157-2180, if needed.

Storing the Fin Shield

Take care of the fin shield by storing it flat. That keeps it from warping. Lay it on the floor away from traffic areas, or hang it on the wall against a flat surface.



Lay shield flat on oil cooler frame



Store shield flat on floor...



...or on wall

Half-Mast

WAIT,
WAIT! DON'T
LEAVE ME!!

I SHOULD'VE KNOWN
CORROSION WOULD
SEPARATE US!

CORROSION COULD **DEADLINE** YOUR VEHICLE

Whenever you transport fuel tankers, it's important to be safe. Otherwise, you and others near you could have a **really** bad day. So here's a problem with M900-series fuel tankers that you **must** know about to keep yourself and others safe while hauling fuel.

A recent inspection found too much corrosion around the upper coupler plate and frame structure. Corrosion build-up weakens the frame structure and can cause the fuel tanker to separate from the prime mover. But you can prevent this from happening.

If your unit has M967A1, M967A2, M967P1, M967A1P1, M967A2P1, M969A1, M969A2, M969A3, M969P1, M969A1P1, M969A2P1, M969A3P1, and M970A1 fuel tankers, inspect each vehicle. TACOM SOUM 13-008 gives you details on what to do. It's available at:

<https://tulsa.tacom.army.mil/SAFETY/message.cfm?id=SOUM13-008.html>

HERE'S WHAT THE SAFETY MESSAGE HAS
TO SAY ABOUT CONTROLLING CORROSION
ON YOUR UNIT'S FUEL TANKERS...

Upper Coupler Inspection

Unbolt and lower the kingpin coupler weldment from the tanker following the instructions in the TM that supports your model. That allows you to inspect the kingpin coupler weldment and the tanker's main frame structure.

Remove any rust or paint flakes on the kingpin coupler weldment. That'll help you determine the actual amount of deterioration.

Use a 0 to 6-in vernier caliper to measure the area and thickness of each cleaned corroded area. The vernier caliper is included in the standard automotive tool set (SATS), NSN 4910-01-490-6453.

The original thickness of the upper coupler plate is .375 inches. The kingpin coupler weldment must measure .319 inches or more for the upper coupler to be usable.

This table will help you figure out the extent of corrosion deterioration and loss of material thickness:

Component	Original thickness (inches)	10 percent loss (inches)	15 percent loss (inches)	50 percent loss (inches)	150 percent repaired thickness (inches)
Upper coupler plate	.375	.338	.319	.188	.563
Upper coupler support cross members	.250	.225	.213	.125	.375

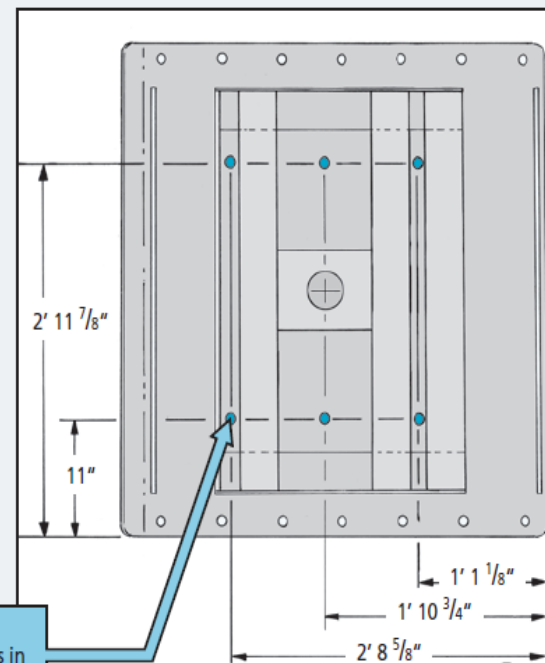
When overall thickness is less than .319 inches, the upper coupler isn't repairable and the tanker is deadlined. You'll have to remove and replace the king coupler weldment to bring your tanker back to a fully mission capable (FMC) status.

And when overall thickness is .319 inches or more on the upper coupler, it's serviceable, but you still need to take a few corrective steps.

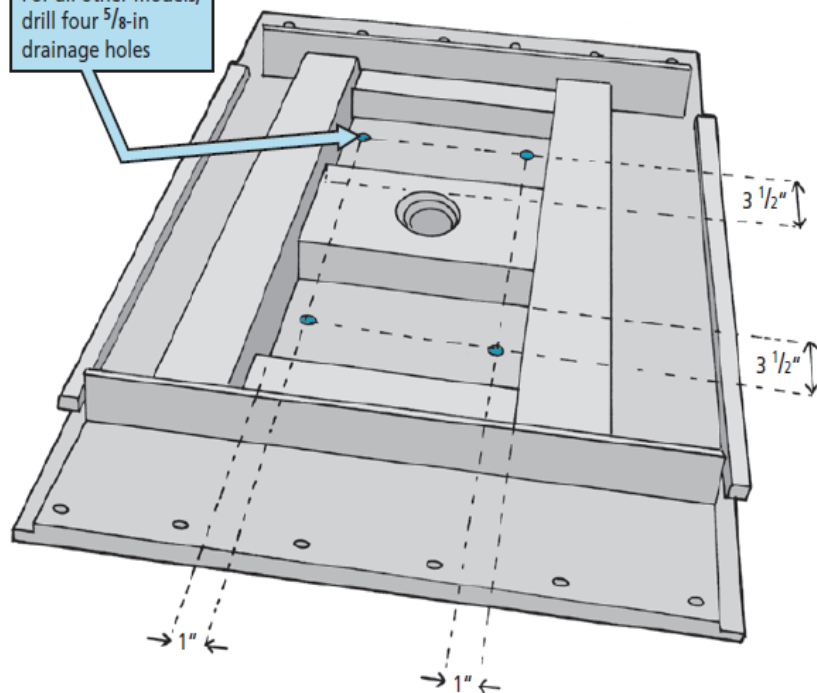
First, remove all corrosion and old paint. Next, treat and repaint the area following the spot painting guidance in TB 43-0242, *WD CARC Spot Painting*. Then insert drainage holes in the kingpin coupler weldment.

Here's where those drainage holes should be located:

For M967A2 and M969A3 models, drill six $\frac{5}{8}$ -in holes in kingpin coupler weldment.



For all other models, drill four 5/8-in drainage holes



When you order kingpin couplers again, they will already have drain holes. So all you'll have to do is install them.

Tanker Frame Inspection

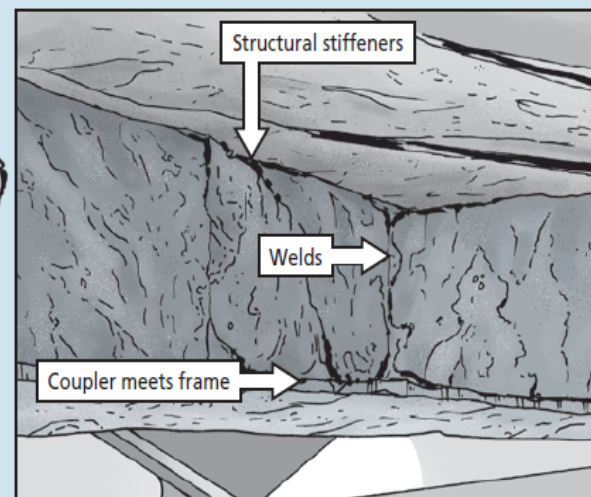
You'll need to inspect your fuel tanker's frame rails and high structural stress areas, too. Take a good look at the frame area under the upper coupler. Clean the corroded areas and then measure them with the caliper. The material must be .213 inches or more for the frame rails and structural components to be usable. See this table for more info:

Component	Original thickness (inches)	10 percent loss (inches)	15 percent loss (inches)	50 percent loss (inches)	150 percent repaired thickness (inches)
Tanker frame	.250	.225	.213	.125	.375
Tanker cross members	.250	.225	.213	.125	.375

You'll find high structural stress areas at structural stiffeners, where cross members connect with frame rails, and where bottom flanges meet with the beam web and weld joints. Even if you see only a little corrosion, you should still measure these areas.



BE SURE TO INSPECT ALL HIGH STRUCTURAL STRESS AREAS!



Determine the cross-sectional thickness of the corroded area using the vernier caliper. When the overall material thickness is .213 inches or more on the frame rails and structural components, remove all corrosion and any old paint. Then treat and repaint using TB 43-0242 for guidance.

If the thickness of the frame rails and structural components is less than .213 inches, the tanker is non-mission capable until repairs are made.

Areas that measure between .125 and .212 inches on the frame rails and structural components should be reinforced to .375 inches. The rebuild will require heavier sectional members, including backing plates. Refer to Para 5-5, Repairing Deterioration Caused by Corrosion, in TB 9-2510-242-40. Section IV of the TB gives you info on the equipment and skills necessary to repair the tankers.

If the frame rails and structural components have a thickness of less than .125 inches, the entire structural section, including the frame rails, cross members and structural stiffeners, must be replaced.

Add to Annual PMCS

TACOM LCMC plans to update TM 9-2330-329-14&P, TM 9-2330-330-14&P, TM 9-2330-356-14&P, and TM 9-2330-398-24&P in FY14. The TM changes will include requirements to:

- perform an annual PMCS at the field maintenance level for each coupler plate check identified.
- annually inspect the coupler plate area for corrosion.
- disassemble and clean the potential corrosion problem areas as required.



PLS...

GET FLAT RACK DECKED OUT



Need to replace the decking on the M1 flat rack for your PLS? Wood decking kit, NSN 2510-01-582-5403, fits the bill. It replaces NSN 2510-01-582-5398, which is no longer available.

The kit actually contains two sub-kits: apitong wood, NSN 2510-01-582-5408, and plywood, NSN 2510-01-582-5396. Apitong is stronger and more durable than most other woods you can use. It resists rotting and ultraviolet rays, repels water and requires little maintenance.

The boards in these kits are not cut to fit or pre-drilled, though. That means you'll need a carbide saw blade and carbide-tipped drill bits to work with the apitong wood.

Attaching hardware is also not included, so you'll need to order it separately from Figs 3012 and 3015 in TM 9-2320-319-13&P.

If you need to replace the flat rack's rear folding wall, order the wood kit that comes with NSN 2510-01-582-5515.



Route Clearance Vehicles...

WAIT A MINUTE!

YOU WANT
ME TO GO
UP THERE?



GET TIRE CHAINS FOR SNOWY PASSES

Dear Half-Mast,
We have several different route clearance protection vehicles that have to travel through the snowy mountain passes of Afghanistan. Are tire chains available for the Husky, M-ATV, MaxxPro, M984A4 HEMTT wrecker and FPI Buffalo?

SSG J.S.

Dear Sergeant J.S.,

You bet! Here's the list of tire chain NSNs you'll need:

Vehicle	Snow Chain, NSN 2540-
M1240/M1245 M-ATV MRAP	01-492-2989
M1240A1 M-ATV MRAP	01-593-1152
MaxxPro, MaxxPro Plus (front)	01-483-2930
MaxxPro Plus (rear)	01-569-3146
MaxxPro Dash	01-483-2930
MaxxPro Dash ISS	01-597-3332
M984A4 wrecker	01-152-7813
FPI Buffalo	01-152-7813

Half-Mast

MUST DO SAFE WINTER DRIVING TIPS

BRRRR!

SUPER-COLD WINTER DAYS MAKE US WANT TO RELAX BY A FIREPLACE AND ENJOY A HOT BEVERAGE.



WITH SAFE WINTER DRIVING, YOU MAY GET TO DO JUST THAT!



WE ALL KNOW THAT SLIPPING AND SLIDING ON SNOW AND ICE WHILE DRIVING ISN'T DELIGHTFUL.



SO MAKE SURE YOU USE THE GUIDANCE IN YOUR VEHICLE'S -10 TM...

...AND THESE TIPS TO PREVENT PROBLEMS DOWN THE ROAD.

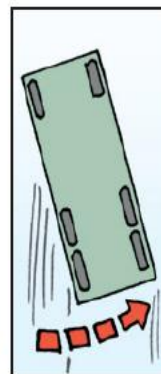


OK, FINE. HOW ABOUT SKIDDING?



EASY!

SUPPOSE YOUR TAIL IS SWINGING TO THE RIGHT...



TAKE YOUR FOOT OFF THE GAS AND TURN YOUR STEERING WHEEL IN THE DIRECTION YOUR REAR IS SKIDDING.



IF DRIVING A TRACTOR-TRAILER, STEER AWAY FROM THE DIRECTION OF THE SLIDING TRAILER.

AND DON'T OVERSTEER. STEER JUST ENOUGH TO CORRECT THE SKID.





AND ON A SLICK ROAD, DON'T COUNT ON YOUR BRAKES TO STOP YOU IN A HURRY.

SLAMMING ON THE BRAKES WILL MAKE YOUR VEHICLE SLIDE.

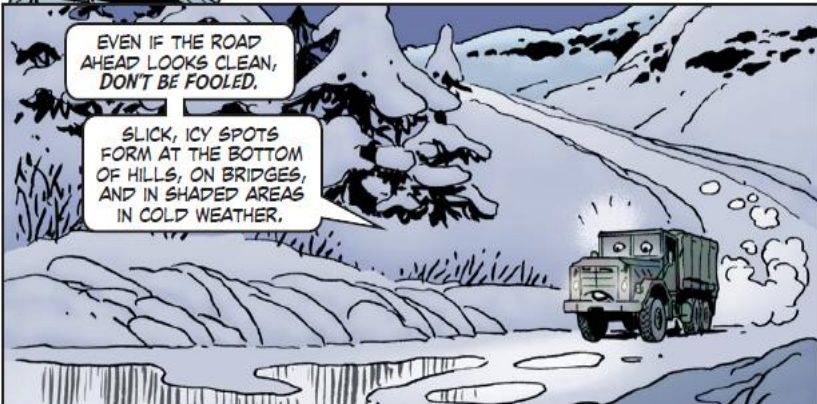


ALSO, LOOK AHEAD FOR DANGERS AND KEEP YOUR EYES MOVING. BE READY TO REACT OR STOP AT ALL TIMES. WHEN STOPPING, AIM TO STOP 20 TO 30 FEET SHORT TO ALLOW FOR UNEXPECTED TROUBLE.

BE SUPER-CAUTIOUS ON SHARP CURVES. IF YOU GO TOO FAST, CENTRIFUGAL FORCE WILL SLING YOU OFF THE ROAD, CREATING A BAD DAY FOR YOU AND YOUR UNIT.

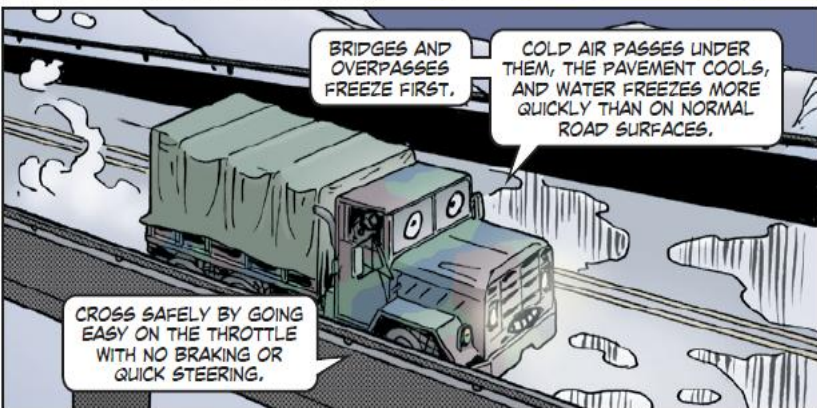
USE ENOUGH POWER TO HELP YOU AROUND CURVES AND TO HOLD TRACTION—THE ALL-IMPORTANT GRIP YOUR TIRES HAVE ON THE ROAD.

SO SLOW DOWN BEFORE GOING INTO A CURVE OR DOWNGRADE. ENGINE DRAG HELPS, TOO. JUST EASE OFF THE THROTTLE.



EVEN IF THE ROAD AHEAD LOOKS CLEAN, DON'T BE FOOLED.

SLICK, ICY SPOTS FORM AT THE BOTTOM OF HILLS, ON BRIDGES, AND IN SHADED AREAS IN COLD WEATHER.



BRIDGES AND OVERPASSES FREEZE FIRST.

COLD AIR PASSES UNDER THEM, THE PAVEMENT COOLS, AND WATER FREEZES MORE QUICKLY THAN ON NORMAL ROAD SURFACES.

CROSS SAFELY BY GOING EASY ON THE THROTTLE WITH NO BRAKING OR QUICK STEERING.

Hills



WHEN CLIMBING A HILL, MOMENTUM AND TRACTION ARE YOUR FRIENDS.

THANKS, GUYS! I COULDN'T HAVE DONE IT WITHOUT YOU!

HOWEVER, YOU CALL THE SHOTS. REMEMBER...

- If momentum is too slow for wheel speed, the result is lost traction and spinning wheels.
- If momentum is too fast for wheel speed, that also results in lost traction and the vehicle skids.
- If momentum is in tune with wheel speed, you have traction and good control.

GOING UPHILL, THE MORE MOMENTUM YOU HAVE, THE LESS TRACTION YOU NEED.

IT'S A GOOD IDEA TO LET THE VEHICLES AHEAD OF YOU MAKE IT TO THE TOP FIRST.

THEN YOU WON'T HAVE TO STOP HALF-WAY UP.

AND REMEMBER TO KEEP YOUR DISTANCE.



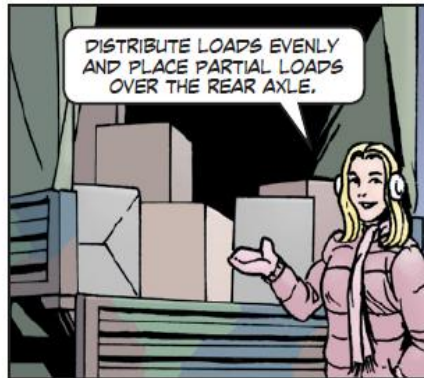
TRY TO GET TO THE TOP OF THE HILL IN ONE SMOOTH UNINTERRUPTED RUN.

GET A RUNNING START SO WHEN YOU REACH THE PEAK, YOU'VE GOT ENOUGH MOMENTUM LEFT TO GET YOU OVER.

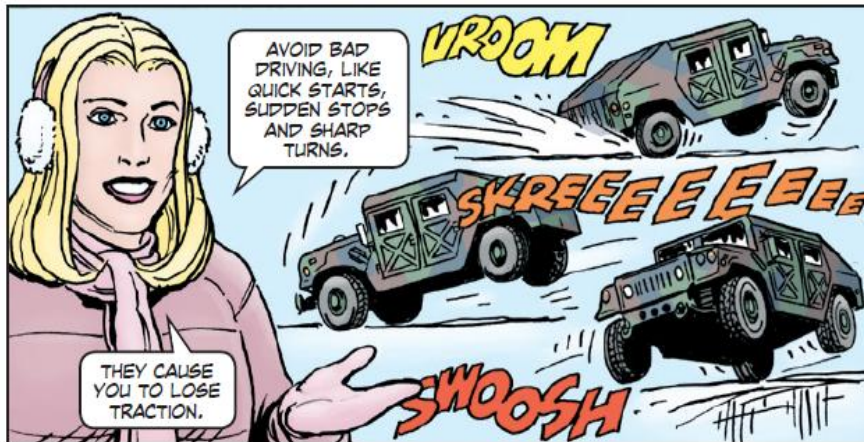
Tires



KEEP TIRES PROPERLY INFLATED AND IN GOOD CONDITION TO HELP TRACTION.

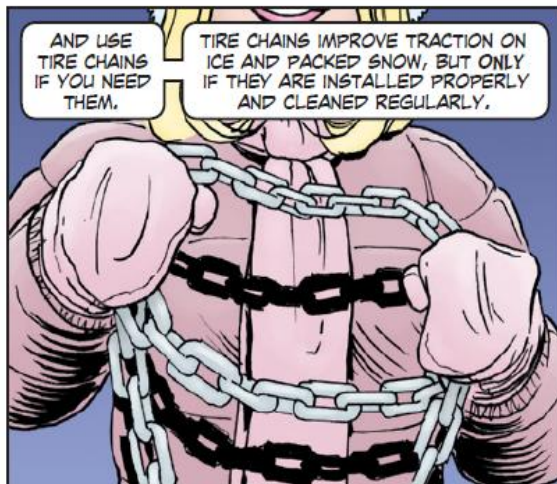


DISTRIBUTE LOADS EVENLY AND PLACE PARTIAL LOADS OVER THE REAR AXLE.



AVOID BAD DRIVING, LIKE QUICK STARTS, SUDDEN STOPS AND SHARP TURNS.

THEY CAUSE YOU TO LOSE TRACTION.



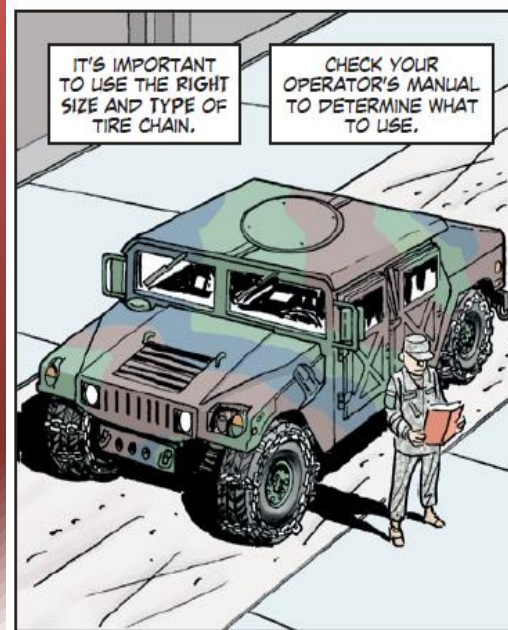
AND USE TIRE CHAINS IF YOU NEED THEM.

TIRE CHAINS IMPROVE TRACTION ON ICE AND PACKED SNOW, BUT ONLY IF THEY ARE INSTALLED PROPERLY AND CLEANED REGULARLY.



CHAINS THAT ARE PACKED WITH ICE WON'T WORK THE WAY THEY SHOULD.

I'D LIKE TO HELP. REALLY I WOULD!



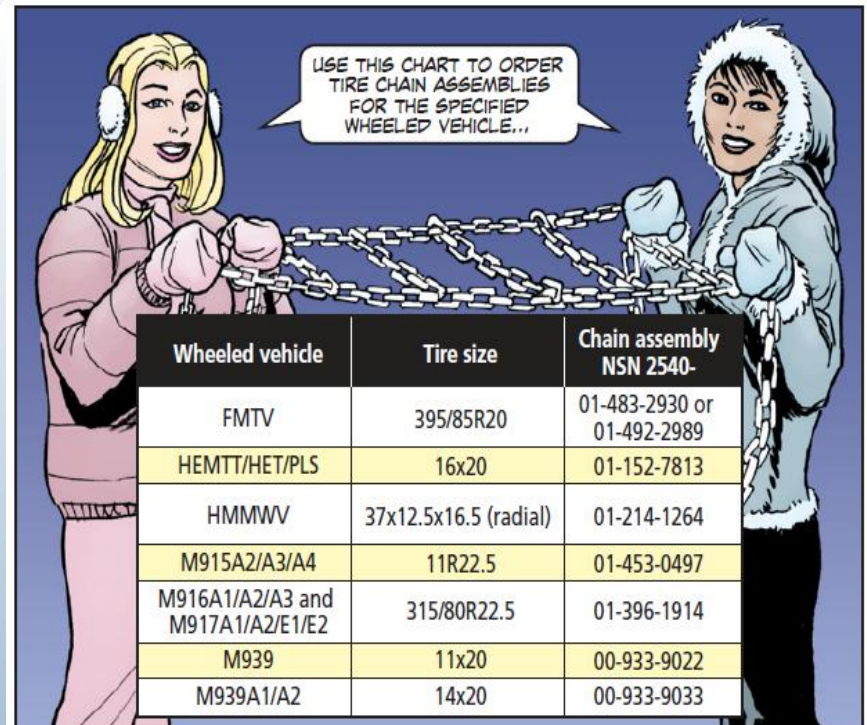
IT'S IMPORTANT TO USE THE RIGHT SIZE AND TYPE OF TIRE CHAIN.

CHECK YOUR OPERATOR'S MANUAL TO DETERMINE WHAT TO USE.



IN MOST CASES, THIS INFORMATION IS FOUND ON THE ADDITIONAL AUTHORIZATION LIST (AAL).

YOU CAN ALSO CHECK OUT TC 21-305-20, MANUAL FOR THE WHEELED VEHICLE OPERATOR, FOR AN EXPLANATION ON HOW TO INSTALL TIRE CHAINS.



USE THIS CHART TO ORDER TIRE CHAIN ASSEMBLIES FOR THE SPECIFIED WHEELED VEHICLE...

Wheeled vehicle	Tire size	Chain assembly NSN 2540-
FMTV	395/85R20	01-483-2930 or 01-492-2989
HEMTT/HET/PLS	16x20	01-152-7813
HMMWV	37x12.5x16.5 (radial)	01-214-1264
M915A2/A3/A4	11R22.5	01-453-0497
M916A1/A2/A3 and M917A1/A2/E1/E2	315/80R22.5	01-396-1914
M939	11x20	00-933-9022
M939A1/A2	14x20	00-933-9033

IF YOUR VEHICLE ISN'T LISTED IN THE FIRST CHART, GET THE CHAINS YOU NEED USING THIS CHART FOR COMMON TIRE SIZES...

Tire size	Chain assembly (Pair) NSN 2540-	Cross chain NSN 2540-	Swivel hooks NSN
7.50x16	00-528-7360	00-933-6960	4030-00-937-0405
9.00x20	00-933-9024	00-933-6916	2540-00-937-0404
9.50x16.50	00-057-0204	00-933-6916	2540-00-937-0404
10.00x15	01-185-8306	00-933-6916	2540-00-937-0404
10.00x20	00-933-9034	00-933-6916	2540-00-937-0404
10.00x20 (dual tires)	00-933-9034	00-933-6916	2540-00-937-0404
11.00x18	00-933-6933	00-933-6915	2540-00-937-0404
11.00x20	00-933-9022	00-933-6915	2540-00-937-0404
11.00x24	00-933-6935	00-933-6915	2540-00-937-0404
12.00x20	00-933-6922	00-933-6915	2540-00-937-0404
14.00x20	00-933-9033	00-933-6992	2540-00-937-0404
14.00x24	00-933-9023	00-933-6992	2540-00-937-0404
16.00x20	01-152-7813	Not Available	Not Available

HAVE YOUR SUPPLY CLERK CHECK FSC 2500 FOR OTHER CHAINS NOT LISTED HERE.

FOR MORE INFORMATION, CONTACT THE DLA CONTACT CENTER AT DSN 661-7766/(877) 353-2255 OR EMAIL: dlacontactcenter@dlamail

DLA

ALTHOUGH TIRE CHAINS ARE DESIGNED TO FIT SNUGLY, YOU SHOULD STILL ALLOW ROOM FOR SOME CREEP.

ALSO, TIGHTEN THE CHAINS BY HAND, INSTEAD OF USING TOOLS.

THIS HELPS PREVENT OVERTIGHTENING THAT CAN GOUGE TIRES.

I CAN'T... BREATHE!!

IF THE CHAINS ARE TOO LOOSE AFTER YOU TIGHTEN THEM BY HAND, USE TIRE STRAPS TO SNUG DOWN THE TIRE CHAINS.

HERE'S SOME INFO FOR SELECTING STRAPS...

Size (in inches)	Stretch (in inches)	NSN 5340-
15	20-30	01-029-9084
21	26-42	01-231-6015
31	36-42	01-029-9085

Shifting

USE CARE WHEN SHIFTING DURING WINTER DRIVING, ESPECIALLY WHILE DOWNSHIFTING. DOWNSHIFTS CAN BREAK TRACTION, SO MAKE EACH SHIFT AS SMOOTH AS POSSIBLE.

WITH A MANUAL TRANSMISSION, YOU COULD GET OVER THE TOP OF THE HILL USING ONE OR TWO GEARS LOWER THAN YOU'D USE UNDER IDEAL CONDITIONS.

ON A DRY ROAD, YOU MIGHT WANT TO SHIFT DOWN TO A LOWER GEAR TO USE THE ENGINE AS A BRAKE. BUT ON ICE, THAT CAN CAUSE PROBLEMS.

THE ENGINE HOLDING BACK YOUR WHEELS IS APPLYING FORCE TO THEM, JUST AS THE BRAKES WOULD DO. IT CAN THROW YOU INTO A SKID. SO IF YOU FEEL YOUR VEHICLE START TO SLIDE, SPEED UP UNTIL YOUR WHEELS ARE NO LONGER SLIDING.

Braking

IF YOU HAVE CONVENTIONAL HYDRAULIC BRAKES, PUMPING 'EM IS PERMITTED.

BUT IF YOUR VEHICLE HAS ANTI-LOCK BRAKES (ABS), DO NOT PUMP THEM.

APPLY FIRM, EVEN PRESSURE INSTEAD.

AND IF YOU HAVE AIR BRAKES, APPLY LIGHT, STEADY PRESSURE.

DON'T PUMP 'EM!

IF YOUR VEHICLE HAS A JACOBS BRAKE—KNOWN AS A JAKE BRAKE—DON'T USE IT IN SLIPPERY CONDITIONS.

IN ICY CONDITIONS, IT TAKES UP TO 12 TIMES THE NORMAL DISTANCE TO STOP.

SO MAKE SURE YOU ALLOW PLENTY OF ROOM TO STOP.

AND NEVER SLAM ON THE BRAKES!

FRONT WHEELS LOCK WITH HEAVY BRAKING AND YOU LOSE STEERING.



SO DON'T SLIP UP ON YOUR WINTER DRIVING!

THE RESULTS COULD BE CHILLING!